

## INTERNATIONAL SEARCH REPORT

Internat. Application No  
PCT/IB 03/03352

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7. H01L29/417 H01L29/45 H01L29/423

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 801 398 A (HEBIGUCHI HIROYUKI) 1 September 1998 (1998-09-01) figure 2	1-27
A	US 2002/009833 A1 (HUANG TIAO-YUAN ET AL) 24 January 2002 (2002-01-24) figure 8G	1-27
A	EP 0 456 059 A (NIPPON ELECTRIC CO) 13 November 1991 (1991-11-13) figure 6	1-27

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \* & \* document member of the same patent family

Date of the actual completion of the international search

5 January 2004

Date of mailing of the international search report

12/01/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Juhl, A

# INTERNATIONAL SEARCH REPORT

Information on patent family members

Interns I Application No

PCT/IB 03/03352

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5801398 A	01-09-1998	JP 2938351 B2 JP 8116060 A	23-08-1999 07-05-1996
US 2002009833 A1	24-01-2002	TW 463384 B JP 2002050770 A	11-11-2001 15-02-2002
EP 0456059 A	13-11-1991	DE 69121629 D1 DE 69121629 T2 EP 0456059 A1 JP 2751658 B2 JP 4226081 A US 5159416 A	02-10-1996 13-02-1997 13-11-1991 18-05-1998 14-08-1992 27-10-1992